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Amendments to the Claims

A listing of the claims, with Claims 3, 4, 6-12, 14, 16, 17, 19, 20 and 22-24 as currently amended, is presented below.

1. (Original) A method for providing biomolecules on a metal oxide substrate comprising the steps of:
 - a) coating said substrate with a polymer by bringing said substrate into contact with a solution comprising said polymer such that the polymer in said solution is able to form a coating on a surface of said substrate,
 - b) depositing said biomolecules onto the substrate obtained in step a) by bringing said biomolecules into contact with said substrate, and
 - c) immobilizing said biomolecules onto the substrate obtained in step a) by covalently binding said biomolecules to said substrate by means of electromagnetic irradiation.
2. (Original) A method according to claim 1, wherein said polymer is substantially adsorptively bound on the metal oxide substrate.
3. (Currently Amended) A method according to claim 1 ~~or 2~~, wherein said polymer comprises multiple amide functional groups and/or multiple cationic functional groups.
4. (Currently Amended) A method according to ~~any of claims 1 to 3~~ claim 1, wherein said polymer is selected from the group comprising poly-aspartate, poly-glutamate, poly- cysteine, poly-serine, poly-methionine, poly-arginine, poly-histidine,

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poly-tryptophane, poly-alanine, poly-lysine, poly-leucine, poly-isoleucine, poly-tyrosine, poly-valine, poly-glycine, poly-proline, poly-phenylalanine, poly-threonine, polymers of other natural and non-natural amino acids and derivatives and mixtures thereof.

5. (Original) A method according to claim 4 wherein said polymer is poly-L-lysine.

6. (Currently Amended) A method according to ~~any of claims 1 to 5~~ claim 1, wherein said metal oxide substrate is a porous metal oxide substrate.

7. (Currently Amended) A method according to ~~any of claims 1 to 6~~ claim 1, wherein said metal oxide substrate is a substrate having oriented through-going channels.

8. (Currently Amended) A method according to ~~any of claims 1 to 7~~ claim 1, wherein said metal oxide substrate is an aluminium oxide substrate.

9. (Currently Amended) A method according to ~~any of claims 1 to 8~~ claim 1, wherein the biomolecules are immobilized on the substrate in spots, thereby forming an array of spots.

10. (Currently Amended) A method according to ~~any of claims 1 to 9~~ claim 1, wherein said biomolecules comprise the same or different biomolecules.

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11. (Currently Amended) A method according to ~~any of claims 1 to 10~~ claim 1, wherein said biomolecules are selected from the group comprising oligonucleotides, polynucleotides, ribonucleotides, proteins, antibodies, antigens, peptides, oligo or poly saccharides, receptors, haptens, ligands, ~~antibodies, antigens, peptides, oligo or poly saccharides, receptors, haptens and ligands~~, drugs, toxins and liposomes.

12. (Currently Amended) A metal oxide substrate obtainable according to the method of ~~any of claims 1 to 11~~ claim 1, having a surface that is coated with a polymer, said substrate having biomolecules ~~immobilised~~ immobilized thereon, wherein said biomolecules are ~~immobilised~~ immobilized on said substrate by covalent binding by means of electromagnetic irradiation.

13. (Original) A metal oxide substrate according to claim 12, wherein said metal oxide substrate is a porous aluminium oxide substrate, having oriented through-going channels.

14. (Currently Amended) A metal oxide substrate, having a surface that is coated with a polymer, said substrate having biomolecules ~~immobilised~~ immobilized thereon, wherein said biomolecules are ~~immobilised~~ immobilized on said substrate by covalent binding by means of electromagnetic irradiation.

15. (Original) A metal oxide substrate according to claim 14, wherein said metal oxide substrate has a surface that is coated with a polypeptide, and preferably with poly-L-lysine.

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16. (Currently Amended) A metal oxide substrate according to claim 14 ~~or 15~~, wherein said metal oxide substrate is a porous aluminium oxide substrate, having oriented through-going channels.

17. (Currently Amended) An aluminium oxide substrate, having a surface that is coated with a polymer, said substrate having biomolecules ~~immobilised~~ immobilized thereon, wherein said biomolecules are ~~immobilised~~ immobilized on said substrate by covalent binding by means of electromagnetic irradiation.

18. (Original) An aluminium oxide substrate according to claim 17, wherein said substrate has a surface that is coated with a polypeptide, and preferably with poly-L-lysine.

19. (Currently Amended) An aluminium oxide substrate according to claim 17 ~~or 18~~, wherein said substrate is a porous aluminium oxide substrate having oriented through-going channels.

20. (Currently Amended) A kit or parts of a kit comprising a metal oxide substrate according to ~~any of claims 12 to 19~~ claim 12, further comprising a detection means for determining whether binding has occurred between biomolecules and an analyte.

21. (Original) A kit according to claim 20, wherein the detection means is a substance capable of binding to the analyte and being provided with a label.

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22. (Currently Amended) A kit according to claim 21, wherein the label is capable of inducing a ~~colour~~ color reaction and/or capable of bio-, chemi- or photoluminescence.

23. (Currently Amended) Method for performing probe-based assays, comprising the steps of:

contacting a sample comprising an analyte to a metal oxide substrate having biomolecules ~~immobilised~~ immobilized thereon according to ~~any of claims 12 to 19~~ claim 12;

incubating said sample with said substrate under conditions suitable for allowing binding of said analyte in said sample to said biomolecules ~~immobilised~~ immobilized on said substrate; and

detecting the binding of said analyte in said sample to said biomolecule ~~immobilised~~ immobilized on said substrate.

24. (Currently Amended) ~~The Use of a~~ metal oxide substrate according to ~~any of claims 12 to 19~~ claim 12, which is used for performing probe-based assays.